Missouri Department of Natural Resources

Water Quality Coordinating Committee
Water Protection Program

Minutes

June 21, 2005

WATER QUALITY COORDINATING COMMITTEE

USGS Columbia Environmental Research Center
4200 New Haven Road
Columbia, Missouri

June 21, 2005
10:00 a.m.

MEETING AGENDA

Little Sac Study, Claire Baffaut, FAPRI

Water Quality Restoration Projects in the Little Sac Watershed,
Matt Keener and David White, Watershed Committee of the Ozarks

Topic Added:
Canada Goose Management Consideration, Andy Raedeke, MDC

Other
- Status of Water Quality Standards Revisions, Phil Schroeder
- Status of 319 Grants, Becky Shannon

Agency Activities

Meetings & Conferences

MISSOURI WATER QUALITY COORDINATING COMMITTEE

June 21, 2005

USGS Columbia Environmental Research Center
4200 New Haven Road
Columbia, Missouri

MINUTES

Attendees:

Bob Bacon	Env. Resources Coalition	Andy Carson	Univ. of Missouri Columbia
Becky Shannon	DNR/WPSCD/WPP-WPCB	Bob Ball	USDA-NRCS
Darlene Schaben	DNR/WPSCD/WPP-WPCB	Betty Wyse	Env. Resources Coalition
David White	Watershed Committee of the Ozarks	Claire Baffaut	UMC FAPRI
Mike Dromrey	Watershed Committee of the Ozarks	Mubarak Hamed	DNR/WPSCD/WPP-WPCB
Matt Keener	Watershed Committee of the Ozarks	Steve Fischer	US Army Corps of Engineers
Michael Heaton	DNR/WPSCD/Northeast Reg Office	Andy Raedeke	MDC
Colene Colby	DNR/WPSCD/Northeast Reg Office	Karen Bataille	MDC
Cindy DiStefano	MO Dept. of Conservation	Trent Stober	MEC Water Resources
Barry Rabe	DNR/Division of State Parks	Anne Peery	DNR/WPSCD/WPP-WPCB
Randy Sarver	DNR/ALPD/Env. Services Program	Ann Crawford	DNR/WPSCD/WPP-WPCB
Terry Frueh	Bonne Femme Watershed Project/Boone Co.	Priscilla Stotts	DNR/WPSCD/WPP-WPCB
Bonnie Liscek	EPA Region VII	Wendi Rogers	UMC FAPRI
Mohsen Dkhili	DNR/WPSCD/WPP-WPCB	Miya Barr	USGS
Phil Schroeder	DNR/WPSCD/WPP-WPCB	John Schumacher	USGS
Randy Lyman	Springfield Public Works		

Randy Sarver introduced Mr. Li and Mr. Bao who were visiting from Inner Mongolia, China.

Little Sac Study, Claire Baffaut, FAPRI
PowerPoint Presentation

This study was financed by a grant from DNR to develop a TMDL and by EPA for the bacterial source tracking. They sampled one mile below Springfield's Northwest Wastewater Treatment Plant (WWTP) off the bridge on Farm Road (FR) 129 and off the bridge on Road 215, which is upstream of the USGS gage. They sampled once a month from November 2003 to February 2004; once a week from March to October 2004. They used the standard of 200 colonies per 100 milliliter for this study. They found about the same concentrations at both locations. When a storm event occurred, the concentration increased, even if it was just a small amount of rain. They looked at the different seasons and saw that the average at FR 129 was above the standard. The geometric mean was also above the standard. Road 215 was very similar. Looking at a comparison of dry weather vs. storm events, the dry weather sites were similar; higher concentrations were noted at FR 129, which is closer to Springfield. The data did not show any statistically significant differences between the two sites. The base flow concentrations exceeded water quality standards.

Bacterial source tracking was done by Dr. Andy Carson, UMC. They tried to match bacteria from the water sample to feces samples from animals, the WWTP, and other things in the watershed. The samples were sorted into five categories—cattle, horse, goose, WWTP, and septic tanks, and an unidentified category. Claire showed charts of the percentages of each category that were found during each season at each site. Geese play a large role in the change from winter to summer. Sewage bacteria showed a higher

contribution in the winter at FR 129 and similar percentages at both sites during the summer, with little contribution from septic tanks. Cattle and horse contributed evenly throughout the year. The comparison chart between dry weather and storm events showed some differences but not significant differences. This data was used to calibrate the SWAT model. They also input the digital evasion map, topography, soil information from NRCS, land use information from MoRAP, precipitation, and management information. They included the little information know about the several springs in the watershed and information on the sinkholes in the watershed. Claire went over the hypothesis used for the model. They calibrated the model for flow and fecal coliform. She showed charts for each site using percentages of base load and surface load for each category. Bacterial source tracking showed higher percentages than the estimated total load. Since the bacterial source tracking for the WWTP showed a higher percentage than what was estimated, they felt that sewage could be coming from illegal connections, sanitary sewer system leaks, by-passed septic systems, or storage of bacteria in river sediment. The model was used to calculate allowable loads. Claire explained how this was done. Calculations were done to show load reductions needed for each site. They felt load reductions could be done by addressing spring contamination, geese in rural and urban areas, urban runoff, and leaks of the sewer system in Springfield. The City of Springfield is currently working on addressing urban runoff and leaks of the sewer system. Claire felt it important to continue the monitoring in the Little Sac watershed. WCO, DNR, and Greene County Department of Health are currently doing some monitoring. She felt it important to monitor the springs and urban runoff to better quantify their contributions.

Water Quality Restoration Projects in the Little Sac Watershed, Matt Keener, Watershed Committee of the Ozarks
PowerPoint Presentation

The Watershed Committee of the Ozarks was started in 1984. They have a six-member advisory board. The City of Springfield, City Utilities, and Greene County are the major sponsors. They utilize grants to fund some of their projects. Four projects that are currently ongoing include Little Sac Watershed Restoration project, Community On-Site Wastewater and Stormwater Project, Adopt-A-Spring, and the Valley Water Mill Project. The watershed is approximately 400 square miles and mostly agricultural. Fellows and McDaniel lakes and Stockton Lake are the main reservoirs for drinking water. The purpose of the Little Sac Restoration project was to address the fact that the Little Sac River was placed on the 303(d) list for fecal coliform and the reservoirs for nutrients and sediment. The designated uses for the river are livestock and wildlife watering, protection of warm water aquatic life, cool water fishery, whole body contact recreation, and boating/canoeing. The Little Sac project started in 2000 and is schedule to end September 2005. They were awarded 319 funding in the amount of $343,500 to address the nonpoint source issues in the watershed through education, monitoring, and restoration. Stream bank stabilization, riparian corridor enhancement, rotational grazing, livestock exclusion and alternative watering, and waste containment and diversion structures were methods used for restoration. To date they have done four riparian restorations, three planned grazing systems, seven alternative watering systems, two agricultural field days, and eight watershed festivals. Matt showed a before and after picture of a bank stabilization and riparian enhancement. They are working with the City of Springfield on a 3,000-4,000 linear feet of a stream bank stabilization project. They are also working on a project with the Feemster Dairy Farm to assist with runoff from lots, manure storage, and drainage into the Fulbright Spring recharge area. They have 23 sampling sites for monitoring in the Little Sac.

The purpose of the Community On-Site Wastewater and Stormwater Project is prevention of nonpoint source pollution through education and demonstration of innovative techniques. They hope to construct an on-site training facility, do stormwater demonstrations on site, and have a groundwater demonstration area. They also plan to provide some services to the public on septic maintenance, failing systems, and educational brochures. The purpose of the Adopt-a-Spring project is to establish baseline water quality

data on the local aquifer system. This project is community-based and volunteer driven. They now have a spectrofluorophotometer that will aid with research on possible spring contamination and sources. The Valley Water Mill site is a 100-acre site that is owned by City Utilities. WCO has a long-term lease on the property. It has a lot of natural features. The Fulbright Spring recharge area is just below the site. They plan to build an educational watershed center showcasing best management practice demonstrations, outdoor learning stations, trails, a fishing access, and a wetland. The new center will be a 'green building.'

Canada Goose Management Considerations, Andy Raedeke, MDC
PowerPoint Presentation

Andy said Canada Geese are federally protected under the Migratory Bird Treaty. They can be found in a number of different habitats and they live a long time. There are differences of opinion on the number of sub-species of geese. Andy showed a map of North America and described the flyways of different geese and which ones came to Missouri. It was once thought that the Canada Geese were extinct. Restoration efforts began in the 1950's. They found geese nesting in cliffs along the Missouri River. By the 1990's they recognized a possible goose problem due to overpopulation.

In February, the geese start looking for their nests; then in March, they lay 5-6 eggs, which hatch in mid-May. The young take 70 days before they can fly so they imprint on where they learn to fly. Survival rate tends to be higher in urban areas since there are fewer predators. They primarily eat grass in the summer and grains in the winter. Each year geese molt in summer and can't fly. This makes banding geese easier. He had a chart showing the numbers of Canada geese at different locations in the Springfield area. There is also a growing problem of domestic geese. Goose droppings can weigh up to 1½ pounds per day per goose. This can add up quickly. Other concerns include aggressive geese, aircraft/goose collisions, crop depredation, and harm to water quality. Squaw Creek in the fall can have up to 300,000 snow geese and 200,000 ducks all using that wetland complex which amounts to a lot of goose droppings.

Geese like short grass and open ponds. They don't like tall grasses where they cannot see. To help control the populations, Missouri has hunting seasons with longer season limits, season timing and higher bag limits. The four goose zones in Missouri are also taken into consideration so more days are available for hunting Missouri geese and not migrant geese. Other methods of population management include harassment, repellents, habitat management, and sometimes removal. Andy gave examples of each. Andy said one of the challenges is that there are different types of geese at different times of the year. There are lots of population dynamics that influence the number of birds throughout the year.

MDC's Private Land Biologist or Wildlife Management Biologist is a good contact to answer questions on control measures and what works best.

Other
319 Grant Status, Becky Shannon
The 319 grant is federal funding from EPA used to address nonpoint sources of water pollution throughout the state. A Request for Proposals (RFP) was sent out resulting in the department receiving 27 proposals. Becky said this was a record thus far. More money was applied for than what is available through the grant so the proposals will be prioritized. A review of the proposals will be done in the next couple of weeks. She mentioned that DNR is still waiting on EPA's approval of funding for the projects approved from last year's funding.

Status of Water Quality Standards, Phil Schroeder
The Water Quality Standards are currently on Public Notice and available for public comment until July 14, 2005. The CWC has asked staff to provide an opportunity to comment on the Use Attainability Analysis (UAA) that were conducted recently that would assess the ability of certain streams to support a whole body contact recreational use for swimming. Those analyses may have an impact on the rulemaking due to the fact that the rule is set up to designate all classified waters in the state for swimming use. So, for any successful UAAs that can be submitted to the department by July 14, staff would ask the CWC not to designate certain waters for that use and therefore, bacterial standards for that water would not apply. CWC have asked staff to limit UAAs that would affect the rule to received by July 14. The department will post all UAAs and staff recommendations to the Internet by July 25. There will then be a 30-day public comment period from July 25 to August 24. Received comments and any findings relevant to those comments will be posted to the Web. A Final Order of Rulemaking will be taken to the CWC at their September 7 meeting. Comments on any part of the rule are due by July 14, 2005.

Agency Activities

Betty Wyse said she recently retired from state employment and is now working with Environmental Resources Coalition (ERC) to work on a new grant program for southwest Missouri. ERC is receiving federal money through EPA to work on several basins in the southwest area in the Elk, Shoal, Spring, White, and James rivers. This is a five-year project with a commitment from Senator Bond for $10 million. They will work on a data gap analysis on water quality and implementation. Betty said she will be contacting different agencies for technical assistance for a technical oversight committee.

Bob Ball mentioned that information on the "It's the Water" Workshop can be found at www.swcs.missouri.edu. Five states are involved with Missouri serving as host. Contact Becky Shannon or Bob for more information. NRCS just wrapped up the second Conservation Security Program sign up for six watersheds throughout the state. There was a lot of interest. They are getting documentation together to submit to USDA for the third sign up. Two watersheds, Spring River and James River, are being nominated, plus five others. Nomination acceptance is dependent upon available funding. EQIP sign up will be in October. Other information on these programs can be found on NRCS's homepage.

Randy Lyman said the expansion on their southwest plant should be completed this fall. The $19 million project on the northwest plant is just starting. This project is replacing the chlorine disinfection and dechlorination with ultraviolet disinfection. They are also adding phosphorus and nitrogen removal and expanding the capacity. The storm water program recently started an Adopt-a-Spring program for trash and litter pickup.

Phil Schroeder mentioned an ongoing workgroup that has been meeting to redevelop the rule on Combined Sewer Overflows. He invited anyone interested to attend. The next meeting is June 28.

Terry Frueh mentioned a Low Impact Development workshop at the Lenoir Community Center in Columbia on June 22.

Dave White said Missouri now has three spectrofluorophotometers. One is housed at DNR in Rolla; one at Ozark Underground Laboratory; and Watershed Committee of the Ozarks now has one. Jim Vandike from the Rolla office will be helping them get started and get the methodology going. Let Dave know if anyone is interested in any dye tracing in the Springfield area or in the data collected.

Bob Bacon said they are working on an Ecological Water Resources Assessment Project. They are doing the first phase of Implementation Use Attainability Analysis of recreational water use. DNR is their customer.

Anne Peery mentioned TMDLs are moving slower this year due to everyone being involved in the UAAs.

John Schumacher mentioned that USGS also has a spectrofluorophotometer.

Priscilla Stotts has been working with four Stream Teams in Perry County. They have been working with a college and monitoring the same sites. The Stream Teams have been on TV, which has been exciting. Priscilla is also making plans for the World Water Monitoring Day event, which is October 18. She is trying to get a list of who and where everyone will be monitoring. Let Priscilla know if anyone is planning a special monitoring for the event.

Becky Shannon mentioned the next Missouri Clean Water Forum is scheduled for July 27. A notice will be sent to the WQCC group. The forum is for policy-type discussion.

Meetings and Conferences

September	13-15	West North Central Region Soil & Water Conservation Society's "It's The Water" Workshop, Hannibal, MO